ABSTRACT

In a multiply-complexed one-dimensional
structure having a hierarchical structure in which a
linear structure as an element of a one-dimensional
structure having a finite curvature is made of a
thinner one-dimensional structure having a finite
curvature, at least two layers of one-dimensional unit
structures are bonded in at least one site. For
example, in a multiply-twisted helix having a
hierarchical structure in which a linear structure as
an element of a spiral structure is made of a thinner
spiral structure, at least two layers of the unit
spiral structures are bonded in at least one site.
Alternatively, in a multiply-looped ring structure
having a hierarchical structure in which a linear
structure as an element of a ring structure is made of
a thinner ring structure, at least two layers of ring
unit structures are bonded in at least one site.